

# 2M Series



## SMALLER, LIGHTER-WEIGHT ALTERNATIVE FOR D3899 PERFORMANCE

Amphenol 2M micro-miniature connectors are a small, light-weight option for mil-spec performance that can withstand harsh environments. They are quick-mating and a variety of styles and options are available. For full product details, please see our specifications below.

- Intermateable with Glenair® Mighty Mouse

### APPLICATIONS

- Headsets
- Tactical equipment
- Airframes
- Avionics boxes
- Handheld equipment



	2M801	2M803	2M804	2M805
Type	Dual-Start ACME Thread	Bayonet	Push-Pull	Tri-Start ACME Thread
# of Contacts	1 to 130	1 to 55	1 to 55	1 to 130
Coupling Type	Threaded Coupling 1-1/2 turns to fully mate	1/4 Turn Lock Bayonet	Push-Pull Quick-Disconnect	Tri-Start Thread Ratched
Sealing	MIL-STD-810 Method 512 1 Meter for 1 Hour	Splashproof	MIL-STD-810 Method 512 1 Meter for 1 Hour	MIL-STD-810 Method 512 1 Meter for 1 Hour
EMI-Shielding	Good	Fair	Very Good	Excellent
Mating Cycles	2000 Cycles	250 Cycles Aluminum; 500 Cycles Stainless Steel	2000 Cycles	500 Cycles
Electrical Performance	Size 12: 23A, 1800 VAC Size 16: 13A, 1800 VAC Size 20: 7.5A, 750 VAC Size 23: 5A, 500 VAC	Size 12: 23A, 1800 VAC Size 16: 13A, 1800 VAC Size 20: 7.5A, 750 VAC Size 23: 5A, 500 VAC	Size 12: 23A, 1800 VAC Size 16: 13A, 1800 VAC Size 20: 7.5A, 750 VAC Size 23: 5A, 500 VAC	Size 12: 23A, 1800 VAC Size 16: 13A, 1800 VAC Size 20: 7.5A, 750 VAC Size 23: 5A, 500 VAC
Shock & Vibration	37 g's Random Vibration; 300 g's Shock	37 g's Random Vibration; 300 g's Shock	37 g's Random Vibration; 300 g's Shock	37 g's Random Vibration; 300 g's Shock

**MATERIALS AND FINISHES**

Shell	Aluminum alloy 6061 T6, stainless steel passivated, 200C
Insert	Polyphenylene sulfide (PPS)
Contact Retention Clip	Beryllium copper, heat-treated, unplated
Contacts	50u" gold-plated copper alloy
Socket Contact Hood	Passivated stainless steel
Grommet & Seals	Fluorosilicone rubber
Adhesives	Epoxy film
Potting Compound for PCB & Solder Versions	High-strength epoxy

**ELECTRICAL DATA**

Contact Sizes 23, 20, 20HD, 16, & 12 AWG

Operating Voltage & Test Voltage (Mated Condition)

CONTACT SIZE	23	20	20HD	16	12
Sea Level VAC	500	1800	750	1800	1800
40,000 Feet VAC	100	325	150	1000	1000

Current Rating (Max)

CONTACT SIZE	AMPERES
23	5
20	7.5
16	13
12	23

Contact Resistance

CONTACT SIZE	MILLIVOLT DROP
23	73 @ 5A test current
20	55 @ 7.5A test current
16	49 @ 13A test current
12	42 @ 23A test current

Insulation Resistance 5,000 megaohms minimum

**MECHANICAL**

Operating Temperature	-67 F to +302 F (-55C to +150 C) aluminium -67 F to +392 F (-55C to +200 C) stainless steel
Sealing	1 meter for 1 hour (2M803 splashproof)

Insulation Strip Length

CONTACT SIZE	STRIP LENGTH
23	0.150 (3.81)
20	0.188 (2.54)
20HD	0.150 (3.81)
16	0.188 (2.54)
12	0.188 (2.54)

Mating Life	2000 cycles; 2M803 aluminum 250 cycles
Salt Spray	Plating C & M: 48-hours Plating MT, NF, ZN, ZNU, UCR: 500-hours
Fungus	Fungus inert
Vibration	37g
Gunfire Vibration	No discontinuity greater than 1 microseconds; no cracking, breaking or loosening of parts, plug shall not disengage from receptacle. Connectors meet electrical requirements after vibration test.
Shock	300 G, half-sine, 3ms, 3 axes
EMI-Shielding Effectiveness	55 dB min from 100 MHz to 1000 MHz
Contact Type	Crimp, solder or printed circuit
Number of Contacts	1 to 130

Contact Retention

CONTACT SIZE	MIN. POUNDS	MIN. NEWTONS
23	6	27
20	15	67
20HD	9	40
16	25	111
12	25	111

Contact Separation Force

CONTACT SIZE	MIN. OUNCES	MIN. NEWTONS
23	0.5	0.14
20	0.7	0.19
20HD	0.7	0.19
16	2.0	0.56
12	3.0	0.83

Coupling Torque

SHELL SIZE	INCH / POUNDS
5, 6, 7	8
8, 9	9
10	12
12, 13	16
14, 15	28
16, 17	24
21	32

Polarization	Dual-Start ACME Thread coupling, 3 keyways with optional keyway rotations, note insert remained fixed.
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All dimensions in inches (millimeters in parenthesis)